Bluetooth® Qualification

RF Test Report

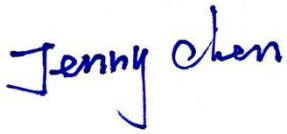
For

Ai-WB2-12F

Of

Shenzhen Ai-Thinker Technology Co., Ltd

Report Number:	IBA202208009B-01
Design Name:	Ai-WB2-12F
Design Model Number:	Ai-WB2-12F
Brand Name:	Ai-Thinker
Final Verdict:	Pass
Testing Period:	18-Aug2022 to 23-Aug-2022
Issue Date:	08-Sep-2022
Revision:	V1.0



Tested and Report prepared by: .....

(**Jenny Chen** / Testing Engineer) **Date: 08-Sep-2022**

Tests and Report reviewed by: .....

(**Plum Peng** / Project Engineer) **Date: 08-Sep-2022**

Test Report approved by: .....

(**Brian Wu** / Authorized Officer) **Date: 08-Sep-2022**

Issued by

Shenzhen iBlueArea Technical Services Co., Ltd.

Room 1006, Block 3A, Tianan Cloud Valley, Bantian, Longgang District, Shenzhen, Guangdong, China

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Contents

1 General Information

1.1 Administrative Details of Test Facility

Test Facility Name	Shenzhen iBlue Area Technical Services Co., Ltd.
Address	Room 1006, Block 3A, Tianan Cloud Valley, Bantian, Longgang District, Shenzhen, Guangdong, China
Accreditation	The laboratory is accredited in accordance with ISO/IEC 17025 by China National Accreditation Service for Conformity Assessment (CNAS) with registration number L10099. The laboratory is recognized as **Bluetooth** Qualification Test Facility (BQTF) by Bluetooth SIG.
Contact Person	Brian Wu
Email	brian.wu@iblue-area.com
Phone	+86-755-86526929, 13760274060

1.2 Administrative Details of Client

Applicant Name	Shenzhen Ai-Thinker Technology Co., Ltd
Address	410, Block C, Huafeng Smart Innovation Port, Gushu 2nd Road, Gushu Community, Xixiang Street, Baoan District, Shenzhen, China

Manufacturer Name	Shenzhen Ai-Thinker Technology Co., Ltd
Address	410, Block C, Huafeng Smart Innovation Port, Gushu 2nd Road, Gushu Community, Xixiang Street, Baoan District, Shenzhen, China

1.3 Normal Environmental Conditions for Test

Ambient Temperature	+15°C ~ +35°C
Ambient Relative Humidity	20% ~ 75%

Actual Test Conditions

Temperature	26.0° C
Relative Humidity	50.0%

The recorded temperature and relative humidity are average values during testing.

1.4 Statements

Following statements is essential part of this test report and shall be kept in mind on reading this test report:

1. The test results presented in this test report apply only to the particular Design under test (DUT) specified in Section 2 of this report, for the functionalities described in the Protocol Implementation Conformance Statement (PICS), as presented for tests with the declared Protocol Implementation Extra Information for testing (PIXIT).

2. This test report does not constitute or imply, by its own, to be an approval of the Design by Qualification Bodies/Experts/Consultants, Certification Bodies or competent Authorities.

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6. **Abbreviations in this report:**

Pass, P	=	Passed
Fail, F	=	Failed
N/A	=	Not Applicable
NT	=	Not Tested
LE	=	Low Energy
BR	=	Basic Rate
EDR	=	Enhanced Data Rate
DUT	=	Design Under Test
PICS	=	Protocol Implementation Conformance Statement
PIXIT	=	Protocol Implementation eXtra Information for Testing

2 Details of Design under Test (DUT)

2.1 General Information of DUT

Design Name	Ai-WB2-12F
Tested Model Number	Ai-WB2-12F
Series Model Number(s)	Ai-WB2-12S, Ai-WB2-07S, Ai-WB2-13, Ai-WB2-13U, Ai-WB2-01M, Ai-WB2-32S, Ai-WB2-05W, Ai-WB2-01S, Ai-WB2-M1, Ai-WB2-M1-I, Ai-WB2-01C, Ai-WB2-01D, Ai-WB2-01N, Ai-WB2-01F, Ai-WB2-01W, Ai-WB2-01H
Difference between Series Model(s) and Tested Model	Encapsulation is different
Hardware Version Number	V1.1
Software Version Number	V1.0
Design Description	Wireless Wi-Fi Bluetooth module
Bluetooth Core Specification Version	V5.0
Supported **Bluetooth** Core Configuration(s)	LE

3 Referenced Documents and Summary of Tests

3.1 Referenced Bluetooth Specifications

Specification Name	Version	Issue Date
Bluetooth Core Specification	4.2	02-Dec-2014
	5.0	06-Dec-2016
	5.1	25-Dec-2018
	5.2	31-Dec-2019
	5.3	13-Jul-2021

3.2 Referenced Bluetooth Test Specifications

Test Specification Name	Revision	Issue Date
Test Case Reference List (TCRL)	2022-1	28-Jun-2022
Radio Frequency (RF) *Bluetooth*® Test Suite	RF.TS.p33	28-Jun-2022
Radio Frequency Physical Layer (RFPHY) *Bluetooth*® Test Suite	RFPHY.TS.p18	28-Jun-2022

3.3 Summary of Test Results

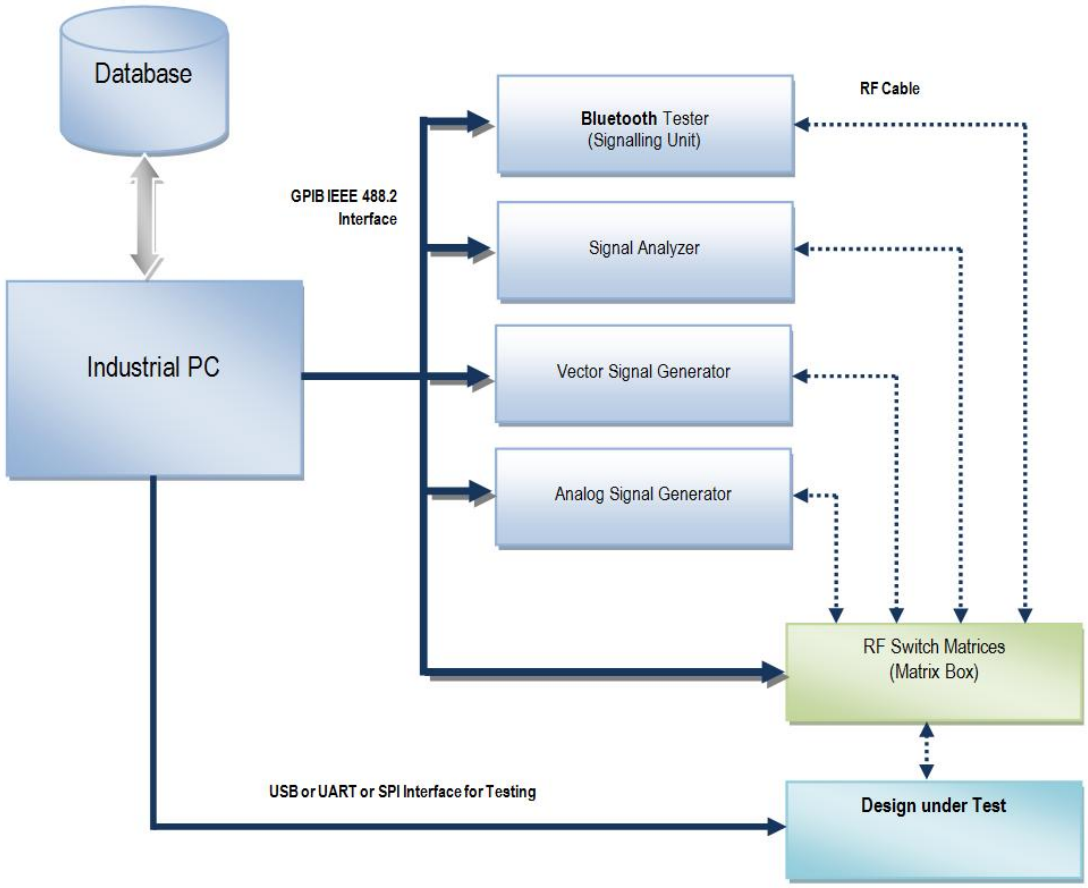
Test Content	Test Result	Remark
RF	N/A	refer to Section 5 for details
RFPHY	Pass	refer to Section 5 for details

4 Details of Test Configuration

4.1 Test Equipment List

RTSB-A Test Systems of CTTL-Systems				
Equipment Name	**Type**	**Serial No.**	**Manufacturer**	**Calibration Due Date**
Analog signal generator	E8257D	US45380647	Agilent	16-Feb-2023
Vector signal generator	E4438C	MY49072505	Agilent	16-Feb-2023
Signal Analyzer	N9030A	MY49430395	Agilent	16-Feb-2023
Bluetooth Tester	MT8852B	6K00005024	Anritsu	16-Feb-2023
DC Power Supply	RXN-605D	20141115652	Zhaoxin	16-Feb-2023
Switch Unit	RTSB-A (v1)	N/A	CTTL-Systems	N/A
Test System	RTSB-A, Version: V3.0.0	N/A	CTTL-Systems	N/A
Signal Analyzer	N9020A	MY51110139	Agilent	16-Feb-2023
Bluetooth Tester	CBT	100539	R&S	16-Feb-2023
Analog signal generator	N5183A	MY47420377	Agilent	16-Feb-2023
Vector signal generator	N5182A	MY50143194	Agilent	16-Feb-2023
Switch Unit	RTSB-A (v2)	N/A	CTTL-Systems	N/A
Test System	RTSB-A, Version: V3.0.0	N/A	CTTL-Systems	N/A

4.2 Test Setup



4.3 Measurement Uncertainty

Measurements and results are all in compliance with the applied test specifications listed in this report.

The measurement uncertainties of the test laboratory which carried out the test cases are compliant with requirements stated in Section 6.8 of the RF test specification (RF.TS) and Section 6.5 of the RFPHY test specification (RFPHY.TS).

All measurements and results are recorded and maintained at the laboratory performing the tests. Measurements uncertainties are taken into account when concluding measurement to pass / fail criteria.

The detailed measurement uncertainty is defined in the test lab's documents and can be provided upon request.

5 RF Conformance Test Results

5.1 RF Test Cases (BR/EDR configuration)

No.	Test Case Identifier	Test Case Description	Category	Verdict
1	RF/TRM/CA/BV-01-C	Output Power	A	N/A
2	RF/TRM/CA/BV-02-C	Power Density	A	N/A
3	RF/TRM/CA/BV-03-C	Power Control	A	N/A
4	RF/TRM/CA/BV-04-C	TX Output Spectrum - Frequency range	A	N/A
5	RF/TRM/CA/BV-05-C	TX Output Spectrum - 20 dB Bandwidth	A	N/A
6	RF/TRM/CA/BV-06-C	TX Output Spectrum - Adjacent channel power	A	N/A
7	RF/TRM/CA/BV-07-C	Modulation Characteristics	A	N/A
8	RF/TRM/CA/BV-08-C	Initial Carrier Frequency Tolerance	A	N/A
9	RF/TRM/CA/BV-09-C	Carrier Frequency Drift	A	N/A
10	RF/TRM/CA/BV-10-C	EDR Relative Transmit Power	A	N/A
11	RF/TRM/CA/BV-11-C	EDR Carrier Frequency Stability and Modulation Accuracy	A	N/A
12	RF/TRM/CA/BV-12-C	EDR Differential Phase Encoding	A	N/A
13	RF/TRM/CA/BV-13-C	EDR In-band Spurious Emissions	A	N/A
14	RF/TRM/CA/BV-14-C	Enhanced Power Control	A	N/A
15	RF/TRM/CA/BV-15-C	EDR Guard Time	A	N/A
16	RF/TRM/CA/BV-16-C	EDR Synchronization Sequence and Trailer	A	N/A
17	RF/RCV/CA/BV-01-C	Sensitivity - single slot packets	A	N/A
18	RF/RCV/CA/BV-02-C	Sensitivity - multi-slot packets	A	N/A
19	RF/RCV/CA/BV-03-C	C/I performance	A	N/A
20	RF/RCV/CA/BV-04-C	Blocking performance	A	N/A
21	RF/RCV/CA/BV-05-C	Intermodulation Performance	A	N/A
22	RF/RCV/CA/BV-06-C	Maximum Input Level	A	N/A
23	RF/RCV/CA/BV-07-C	EDR Sensitivity	A	N/A
24	RF/RCV/CA/BV-08-C	EDR BER Floor Performance	A	N/A
25	RF/RCV/CA/BV-09-C	EDR C/I Performance	A	N/A
26	RF/RCV/CA/BV-10-C	EDR Maximum Input Level	A	N/A

5.2 RFPHY Test Cases (LE configuration)

No.	Test Case Identifier	Test Case Description	Category	Verdict
1	RFPHY/TRM/BV-01-C	Output power, 1 Ms/s	A	N/A
2	RFPHY/TRM/BV-03-C	In-band emissions, uncoded data at 1 Ms/s	A	Pass
3	RFPHY/TRM/BV-05-C	Modulation Characteristics, uncoded data at 1 Ms/s	A	Pass
4	RFPHY/TRM/BV-06-C	Carrier frequency offset and drift, uncoded data at 1 Ms/s	A	Pass
5	RFPHY/TRM/BV-08-C	In-band emissions at 2 Ms/s	A	N/A
6	RFPHY/TRM/BV-09-C	Stable Modulation Characteristics, uncoded data at 1 Ms/s	A	N/A
7	RFPHY/TRM/BV-10-C	Modulation Characteristics at 2 Ms/s	A	N/A
8	RFPHY/TRM/BV-11-C	Stable Modulation Characteristics at 2 Ms/s	A	N/A
9	RFPHY/TRM/BV-12-C	Carrier frequency offset and drift at 2 Ms/s	A	N/A
10	RFPHY/TRM/BV-13-C	Modulation Characteristics, LE Coded (S=8)	A	N/A
11	RFPHY/TRM/BV-14-C	Carrier frequency offset and drift, LE Coded (S=8)	A	N/A
12	RFPHY/TRM/BV-15-C	Output power, With Constant Tone Extension, 1 Ms/s	A	N/A
13	RFPHY/TRM/BV-16-C	Carrier frequency offset and drift, uncoded data at 1 Ms/s, Constant Tone Extension	A	N/A
14	RFPHY/TRM/BV-17-C	Carrier frequency offset and drift at 2 Ms/s, Constant Tone Extension	A	N/A
15	RFPHY/TRM/BV-18-C	Output power, Class 1, 1 Ms/s	A	Pass
16	RFPHY/TRM/BV-19-C	Output power, 2 Ms/s	A	N/A
17	RFPHY/TRM/BV-20-C	Output power, Class 1, 2 Ms/s	A	N/A
18	RFPHY/TRM/BV-21-C	Output power, With Constant Tone Extension, Class1, 1 Ms/s	A	N/A
19	RFPHY/TRM/BV-22-C	Output power, With Constant Tone Extension, 2 Ms/s	A	N/A
20	RFPHY/TRM/BV-23-C	Output power, With Constant Tone Extension, Class1, 2 Ms/s	A	N/A
21	RFPHY/TRM/PS/BV-01-C	[Tx Power Stability, AoD Transmitter at 1 Ms/s with 2 µs Switching Slot	A	N/A
22	RFPHY/TRM/PS/BV-02-C	[Tx Power Stability, AoD Transmitter at 1 Ms/s with 1 µs Switching Slot	A	N/A
23	RFPHY/TRM/PS/BV-03-C	Tx Power Stability, AoD Transmitter at 2 Ms/s with 2 µs Switching Slot	A	N/A
24	RFPHY/TRM/PS/BV-04-C	Tx Power Stability, AoD Transmitter at 2 Ms/s with 1 µs Switching Slot	A	N/A
25	RFPHY/TRM/ASI/BV-05-C	Antenna switching integrity, AoD Transmitter at 1 Ms/s with 2 µs Switching Slot	A	N/A
26	RFPHY/TRM/ASI/BV-06-C	Antenna switching integrity, AoD Transmitter at 1 Ms/s with 1 µs	A	N/A

		Switching Slot		
27	RFPHY/TRM/ASI/BV-07-C	Antenna switching integrity, AoD Transmitter at 2 Ms/s with 2 µs Switching Slot	A	N/A
28	RFPHY/TRM/ASI/BV-08-C	Antenna switching integrity, AoD Transmitter at 2 Ms/s with 1 µs Switching Slot	A	N/A
29	RFPHY/RCV/BV-01-C	Receiver sensitivity, uncoded data at 1 Ms/s	A	Pass
30	RFPHY/RCV/BV-03-C	C/I and Receiver Selectivity Performance, uncoded data at 1 Ms/s	A	Pass
31	RFPHY/RCV/BV-04-C	Blocking Performance, uncoded data at 1 Ms/s	A	Pass
32	RFPHY/RCV/BV-05-C	Intermodulation Performance, uncoded data at 1 Ms/s	A	Pass
33	RFPHY/RCV/BV-06-C	Maximum input signal level, uncoded data at 1 Ms/s	A	Pass
34	RFPHY/RCV/BV-07-C	PER Report Integrity, uncoded data at 1 Ms/s	A	Pass
35	RFPHY/RCV/BV-08-C	Receiver sensitivity at 2 Ms/s	A	N/A
36	RFPHY/RCV/BV-09-C	C/I and Receiver Selectivity Performance at 2 Ms/s	A	N/A
37	RFPHY/RCV/BV-10-C	Blocking performance at 2 Ms/s	A	N/A
38	RFPHY/RCV/BV-11-C	Intermodulation performance at 2 Ms/s	A	N/A
39	RFPHY/RCV/BV-12-C	Maximum input signal level at 2 Ms/s	A	N/A
40	RFPHY/RCV/BV-13-C	PER Report Integrity at 2 Ms/s	A	N/A
41	RFPHY/RCV/BV-14-C	Receiver Sensitivity, uncoded data at 1 Ms/s, Stable Modulation Index	A	N/A
42	RFPHY/RCV/BV-15-C	C/I and Receiver Selectivity Performance, uncoded data at 1 Ms/s, Stable Modulation Index	A	N/A
43	RFPHY/RCV/BV-16-C	Blocking Performance, uncoded data at 1 Ms/s, Stable Modulation Index	A	N/A
44	RFPHY/RCV/BV-17-C	Intermodulation Performance, uncoded data at 1 Ms/s, Stable Modulation Index	A	N/A
45	RFPHY/RCV/BV-18-C	Maximum input signal level, uncoded data at 1 Ms/s, Stable Modulation Index	A	N/A
46	RFPHY/RCV/BV-19-C	PER Report Integrity, uncoded data at 1 Ms/s, Stable Modulation Index	A	N/A
47	RFPHY/RCV/BV-20-C	Receiver sensitivity at 2 Ms/s, Stable Modulation Index	A	N/A
48	RFPHY/RCV/BV-21-C	C/I and Receiver Selectivity Performance at 2 Ms/s, Stable Modulation Index	A	N/A
49	RFPHY/RCV/BV-22-C	Blocking performance at 2 Ms/s, Stable Modulation Index	A	N/A
50	RFPHY/RCV/BV-23-C	Intermodulation performance at 2 Ms/s, Stable Modulation Index	A	N/A
51	RFPHY/RCV/BV-24-C	Maximum input signal level at 2 Ms/s, Stable Modulation Index	A	N/A
52	RFPHY/RCV/BV-25-C	PER Report Integrity at 2 Ms/s,	A	N/A

		Stable Modulation Index		
53	RFPHY/RCV/BV-26-C	Receiver sensitivity, LE Coded (S=2)	A	N/A
54	RFPHY/RCV/BV-27-C	Receiver sensitivity, LE Coded (S=8)	A	N/A
55	RFPHY/RCV/BV-28-C	C/I and Receiver Selectivity Performance, LE Coded (S=2)	A	N/A
56	RFPHY/RCV/BV-29-C	C/I and Receiver Selectivity Performance, LE Coded (S=8)	A	N/A
57	RFPHY/RCV/BV-30-C	PER Report Integrity, LE Coded (S=2)	A	N/A
58	RFPHY/RCV/BV-31-C	PER Report Integrity, LE Coded (S=8)	A	N/A
59	RFPHY/RCV/BV-32-C	Receiver sensitivity, LE Coded (S=2), Stable Modulation Index	A	N/A
60	RFPHY/RCV/BV-33-C	Receiver sensitivity, LE Coded (S=8), Stable Modulation Index	A	N/A
61	RFPHY/RCV/BV-34-C	C/I and Receiver Selectivity Performance, LE Coded (S=2), Stable Modulation Index	A	N/A
62	RFPHY/RCV/BV-35-C	C/I and Receiver Selectivity Performance, LE Coded (S=8), Stable Modulation Index	A	N/A
63	RFPHY/RCV/BV-36-C	PER Report Integrity, LE Coded (S=2), Stable Modulation Index	A	N/A
64	RFPHY/RCV/BV-37-C	PER Report Integrity, LE Coded (S=8), Stable Modulation Index	A	N/A
65	RFPHY/RCV/IQC/BV-01-C	IQ Samples Coherency, AoD Receiver at 1 Ms/s with 2 µs Slot	A	N/A
66	RFPHY/RCV/IQC/BV-02-C	IQ Samples Coherency, AoD Receiver at 1 Ms/s with 1 µs Slot	A	N/A
67	RFPHY/RCV/IQC/BV-03-C	IQ Samples Coherency, AoD Receiver at 2 Ms/s with 2 µs Slot	A	N/A
68	RFPHY/RCV/IQC/BV-04-C	IQ Samples Coherency, AoD Receiver at 2 Ms/s with 1 µs Slot	A	N/A
69	RFPHY/RCV/IQC/BV-05-C	IQ Samples Coherency, AoA Receiver at 1 Ms/s with 2 µs Slot	A	N/A
70	RFPHY/RCV/IQC/BV-06-C	IQ Samples Coherency, AoA Receiver at 2 Ms/s with 2 µs Slot	A	N/A
71	RFPHY/RCV/IQDR/BV-07-C	IQ Samples Dynamic Range, AoD Receiver at 1 Ms/s with 2 µs Slot	A	N/A
72	RFPHY/RCV/IQDR/BV-08-C	IQ Samples Dynamic Range, AoD Receiver at 1 Ms/s with 1 µs Slot	A	N/A
73	RFPHY/RCV/IQDR/BV-09-C	IQ Samples Dynamic Range, AoD Receiver at 2 Ms/s with 2 µs Slot	A	N/A
74	RFPHY/RCV/IQDR/BV-10-C	IQ Samples Dynamic Range, AoD Receiver at 2 Ms/s with 1 µs Slot	A	N/A
75	RFPHY/RCV/IQDR/BV-11-C	IQ Samples Dynamic Range, AoA Receiver at 1 Ms/s with 2 µs Slot	A	N/A
76	RFPHY/RCV/IQDR/BV-12-C	IQ Samples Dynamic Range, AoA Receiver at 2 Ms/s with 2 µs Slot	A	N/A

6 PICS and PIXIT

6.1 PICS

6.1.1 RF PICS

Table 1: Bluetooth BR/EDR RF Capabilities				
Item	**Capability**	**Status**	**Support [Yes] or [No]**	**Reference**
1	Power Class 1	C.5	No	**Bluetooth** core specification, Radio (RF), Volume 2, Part A
2	Power Class 2	C.5	No	
3	Power Class 3	C.5	No	
4	Power Control	C.1	No	
5	1-slot packets supported	M	No	**Bluetooth** core specification, Baseband (BB), Volume 2, Part B
6	3-slot packets supported	O	No	
7	5-slot packets supported	O	No	
8	79 Channels	M	No	**Bluetooth** core specification, Radio (RF), Volume 2, Part A
9	Support for GFSK modulation	M	No	
10	Support for π/4- DQPSK modulation	C.2	No	
11	Support for 8DPSK modulation	C.3	No	
12	Enhanced Power Control	C.4	No	

Explanations for the Status:

C.1: Mandatory IF 1/1 “Power Class 1” is supported; Optional IF 1/2 “Power Class 2” OR 1/3 “Power Class 3” is supported, otherwise Excluded.

C.2: Mandatory IF (SUM ICS 22/1 “EDR for asynchronous transports (single slot)” OR SUM ICS 22/2 “EDR for asynchronous transports (multi-slot)” OR SUM ICS 22/3 “EDR for synchronous transports” OR SUM ICS 22/4 “EDR for synchronous transports”) is supported, otherwise Excluded.

C.3: Mandatory IF (SUM ICS 22/1 “EDR for asynchronous transports (single slot)” OR SUM ICS 22/2 “EDR for asynchronous transports (multi-slot)) OR SUM ICS 22/3 “EDR for synchronous transports”) is supported; Optional if (SUM ICS 22/4 “EDR for synchronous transports”) is supported, otherwise Excluded.

C.4: Optional IF SUM ICS 21/8 “Core Specification 3.0” or later AND 1/4 “Power Control” is supported, otherwise Excluded.

C.5: At least one of 1/1 “Power Class 1” OR 1/2 “Power Class 2” OR 1/3 “Power Class 3” shall be supported.

M: Mandatory support.

O: Optional support.

6.1.2 RFPHY PICS

Table 1: Bluetooth LE RFPHY Capabilities				
Item	**Capability**	**Status**	**Support [Yes] or [No]**	**Reference**
1	LE Transmitter (Non-connectable, Broadcaster)	C.1	Yes	**Bluetooth** core specification, Physical Layer (PHY), Volume 6, Part A, Version 4.0 or later
2	LE Receiver (Non-connectable, Observer)	C.1	Yes	
3	LE Transceiver (Connectable, Peripheral/Central)	C.1	Yes	
4	LE 2M PHY	C.2	No	**Bluetooth** core specification, Physical Layer (PHY), Volume 6, Part A, Version 5.0 or later
5	Stable Modulation Index - Transmitter	C.3	No	
6	Stable Modulation Index - Receiver	C.4	No	
7	LE Coded PHY	C.2	No	
8	Transmitting Constant Tone Extensions	C.10	No	**Bluetooth** core specification, Physical Layer (PHY), Volume 6, Part A, Version 5.1 or later
9	2 µs Antenna Switching During Constant Tone Extension Transmission (AoD)	C.5	No	
10	1 µs Antenna Switching During Constant Tone Extension Transmission (AoD)	C.6	No	
11	2 µs Antenna Sampling During Constant Tone Extension Reception (AoD)	C.11	No	
12	2 µs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	C.7	No	
13	1 µs Antenna Sampling During Constant Tone Extension Reception (AoD)	C.7	No	
14	1µs Antenna Switching and Sampling During Constant Tone Extension Reception (AoA)	C.8	No	
15	Power Class 1	C.9	Yes	

Explanations for the Status:
C.1: Mandatory to support at least one of RFPHY 1/1 OR RFPHY 1/2 OR RFPHY 1/3.
C.2: Excluded IF SUM ICS 21/14 “Core v4.2”, otherwise Optional.
C.3: Excluded IF SUM ICS 21/14, otherwise Optional IF RFPHY 1/1 OR RFPHY 1/3, otherwise Excluded.
C.4: Excluded IF SUM ICS 21/14, otherwise Optional IF RFPHY 1/2 OR RFPHY 1/3, otherwise Excluded.
C.5: Optional IF RFPHY 1/8, otherwise Excluded.
C.6: Optional IF RFPHY 1/9, otherwise Excluded.
C.7: Optional IF RFPHY 1/11, otherwise Excluded.
C.8: Mandatory IF RFPHY 1/12 AND RFPHY 1/13, otherwise Excluded.
C.9: Excluded IF SUM ICS 21/14 AND NOT SUM ICS 21/15, otherwise Optional IF RFPHY 1/1 OR RFPHY 1/3, otherwise Excluded.
C.10: Excluded IF SUM ICS 21/14 OR SUM ICS 21/16, otherwise Optional IF RFPHY 1/1 OR RFPHY 1/3, otherwise Excluded.
C.11: Excluded IF SUM ICS 21/14 OR SUM ICS 21/16, otherwise Optional IF RFPHY 1/2 OR RFPHY 1/3, otherwise Excluded.

Table 2: Bluetooth LE Test Interface Capabilities				
Item	**Capability**	**Status**	**Support [Yes] or [No]**	**Reference**
1	HCI Test Interface	C.1	Yes	**Bluetooth** core specification, Direct Test Mode, Volume 6, Part F, Version 4.0 or later
2	UART Test Interface	C.1	No	

Explanation for the Status:
C.1: Mandatory to support at least one of RFPHY 2/1 OR RFPHY 2/2.

6.2 PIXIT

6.2.1 RF PIXIT

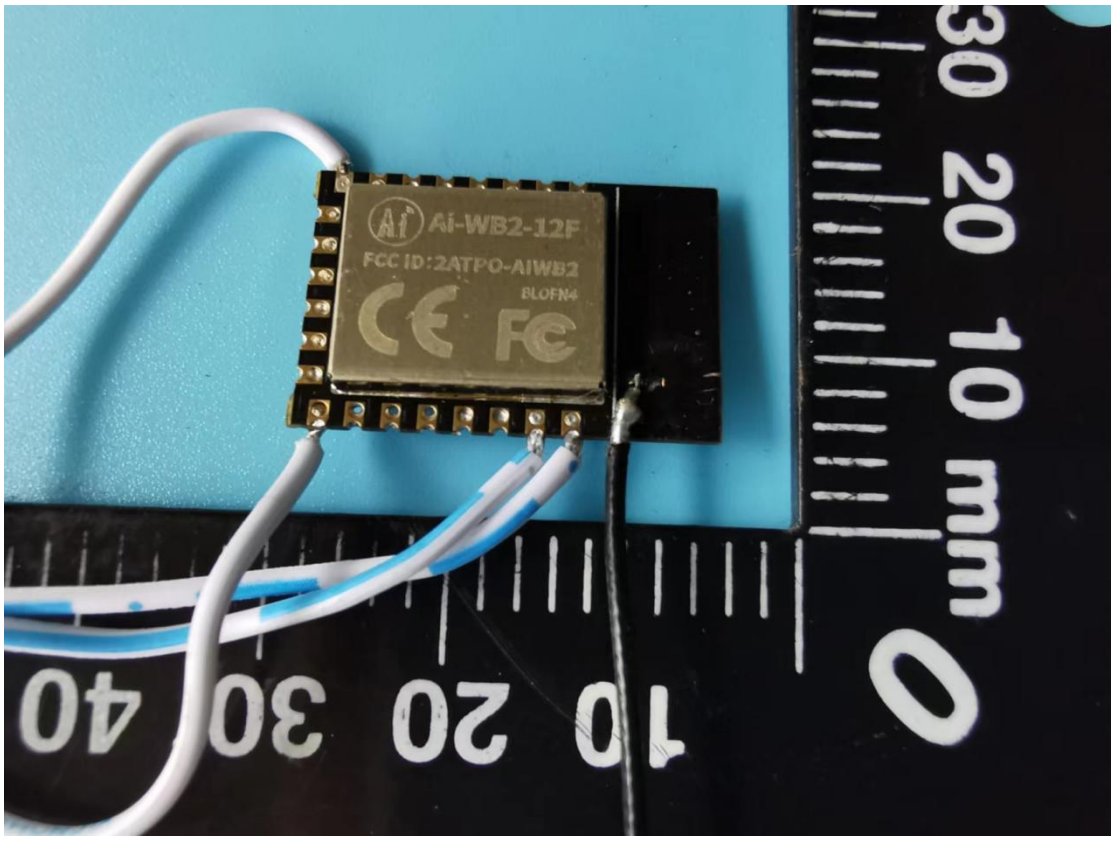
Description	Value	Unit	Type
Timer for TX power control	N/A	ms	Integer
Inband Image frequency	N/A	MHz	Integer
Value n for Intermodulation test	N/A	N/A	Integer
Type of power source	N/A	N/A	Text
Nominal power source voltage	N/A	V	figure, Round to the nearest tenth
Nominal temperature range	N/A	°C	figure, Round to the nearest tenth
Antenna gain	N/A	dBi	figure, Round to the nearest hundredth

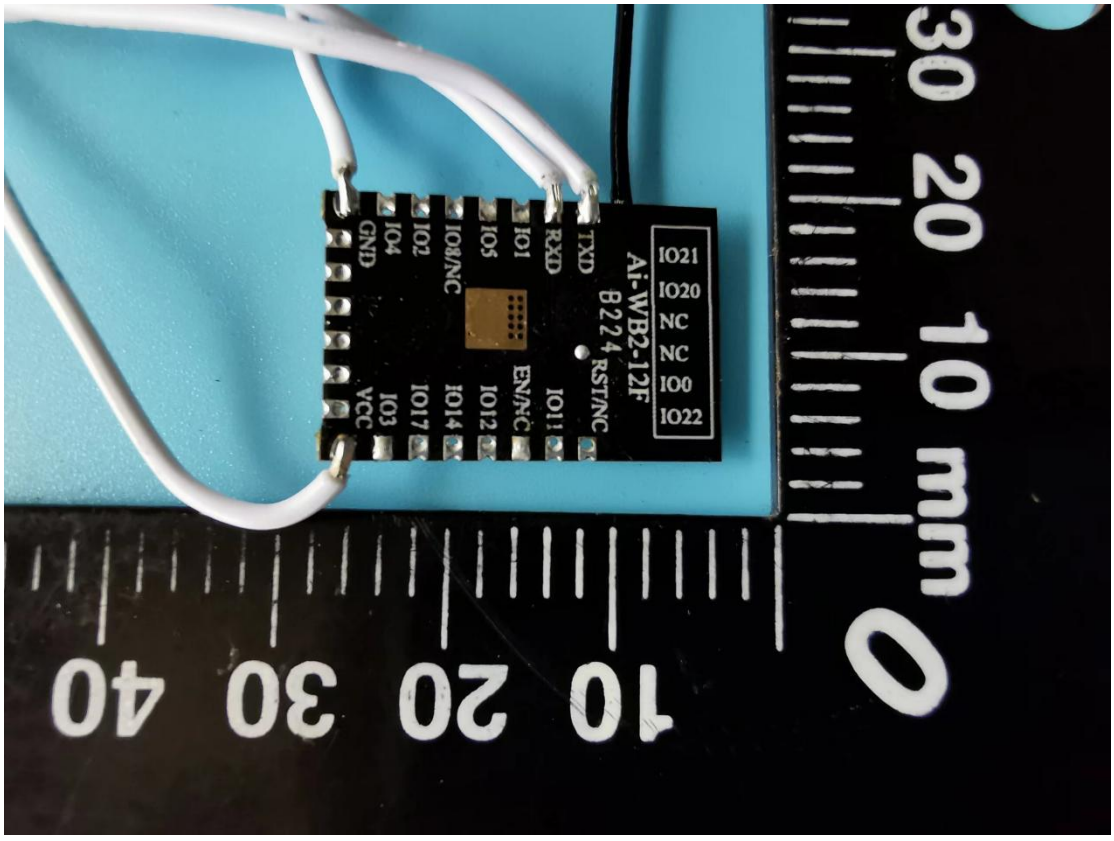
6.2.2 RFPHY PIXIT

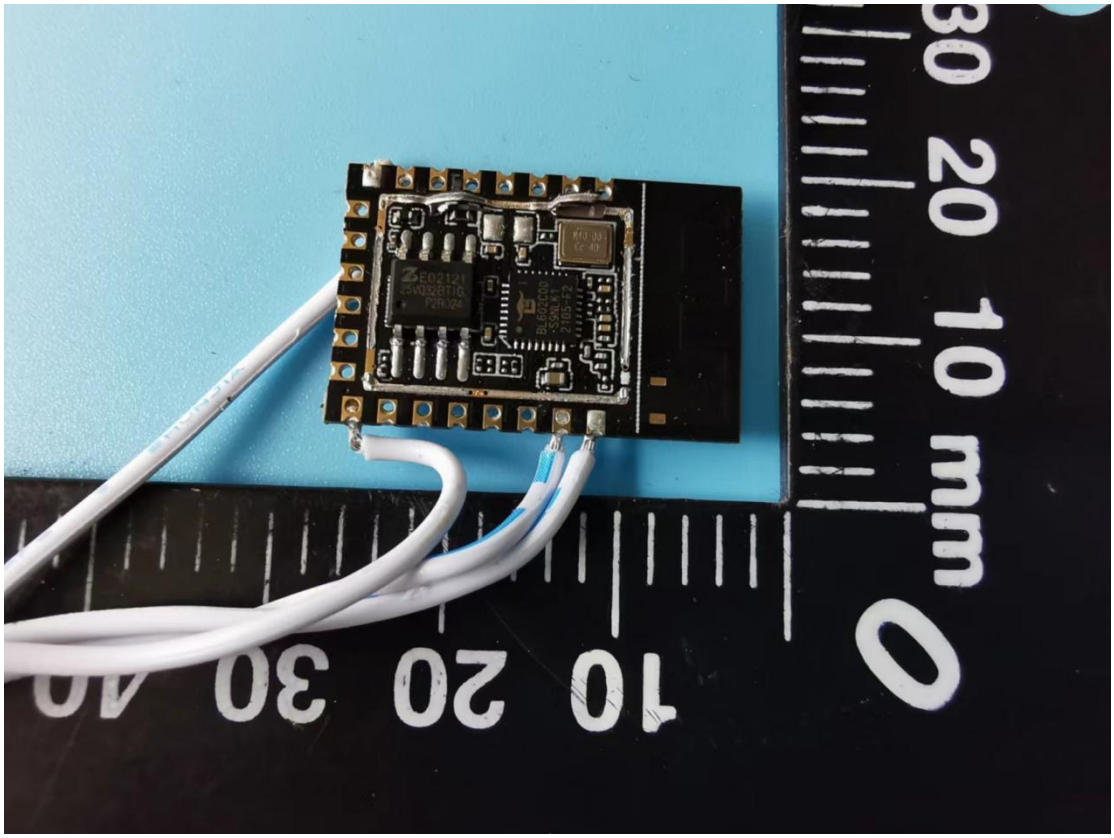
Description	Value	Unit	Type	
Test frequency for Inband Image test, Low	3	MHz	Integer	
Test frequency for Inband Image test, Middle	3	MHz	Integer	
Test frequency for Inband Image test, High	3	MHz	Integer	
Test frequency for Intermodulation test, Low	5	N/A	Integer	
Test frequency for Intermodulation test, Middle	5	N/A	Integer	
Test frequency for Intermodulation test, High	5	N/A	Integer	
Power source voltage	3.3	V	figure, Round to the nearest tenth	
Normal operating temperature	26.0	°C	figure, Round to the nearest tenth	
Air humidity level for NOC tests	50.0	%	figure, Round to the nearest tenth	
Test interface implementation	HCI	N/A	text	
Maximum TX packet length (MAX_TX_LENGTH)	255 (37 to 255 Bytes)	Bytes	Integer	
Maximum RX packet length (MAX_RX_LENGTH)	255 (37 to 255 Bytes)	Bytes	Integer	
Maximum TX packet length (MAX_TX_LENGTH_2M)	N/A (37 to 255 Bytes)	Bytes	Integer	
Maximum TX packet length (MAX_TX_LENGTH_CODED_S2)	N/A (37 to 255 Bytes)	Bytes	Integer	
Maximum TX packet length (MAX_TX_LENGTH_CODED_S8)	N/A (37 to 255 Bytes)	Bytes	Integer	
Maximum RX packet length (MAX_RX_LENGTH_2M)	N/A (37 to 255 Bytes)	Bytes	Integer	
Maximum RX packet length (MAX_RX_LENGTH_CODED_S2)	N/A (37 to 255 Bytes)	Bytes	Integer	
Maximum RX packet length (MAX_RX_LENGTH_CODED_S8)	N/A (37 to 255 Bytes)	Bytes	Integer	
Maximum TX mode output power	<14 (-20 to 20 dBm)	dBm	Integer	
Inband Image Frequency (2Ms/s), Low	N/A	MHz	Integer	
Inband Image Frequency (2Ms/s), Middle	N/A	MHz	Integer	
Inband Image Frequency (2Ms/s), High	N/A	MHz	Integer	
Value n for Intermodulation test (2Ms/s), Low	N/A	N/A	Integer	
Value n for Intermodulation test (2Ms/s), Middle	N/A	N/A	Integer	
Value n for Intermodulation test (2Ms/s), high	N/A	N/A	Integer	
Inband Image Frequency (Stable Modulation Receiver), Low	N/A	MHz	Integer	
Inband Image Frequency (Stable Modulation Receiver), Middle	N/A	MHz	Integer	
Inband Image Frequency (Stable Modulation Receiver), High	N/A	MHz	Integer	
Value n for Intermodulation test (Stable Modulation Receiver), Low	N/A	N/A	Integer	

Value n for Intermodulation test (Stable Modulation Receiver), Middle	N/A	N/A	Integer	
Value n for Intermodulation test (Stable Modulation Receiver), Hgh	N/A	N/A	Integer	
Inband Image Frequency (Stable Modulation Receiver, 2Ms/s), Low	N/A	MHz	Integer	
Inband Image Frequency (Stable Modulation Receiver, 2Ms/s), Middle	N/A	MHz	Integer	
Inband Image Frequency (Stable Modulation Receiver, 2Ms/s), High	N/A	MHz	Integer	
Value n for Intermodulation test (Stable Modulation Receiver, 2Ms/s), Low	N/A	N/A	Integer	
Value n for Intermodulation test (Stable Modulation Receiver, 2Ms/s), Middle	N/A	N/A	Integer	
Value n for Intermodulation test (Stable Modulation Receiver, 2Ms/s), High	N/A	N/A	Integer	
IQ Report Rate	N/A (0x0006 to 0xFFFF)	N/A	Hex	
The length of the Constant Tone Extension(1Ms/s)	N/A (16 to 160)	bits	Integer	
The length of the Constant Tone Extension(2Ms/s)	N/A (32 to 320)	bits	Integer	
The number of antennae	N/A (≥1)	N/A	Integer	
Antenna gain	1.5	dBi	figure, Round to the nearest hundredth	

Annex A Photos of DUT







-------End of Test Report-------